dtcd news

A quarterly of the United Nations Department of Technical Cooperation for Development.
Vol.4 No.2
1991

Also in this issue:

Energy conservation p.3

Cartographic conference p.4

Groundwater overexploitation p.5

Aid accountability p.6

Albania and UNDTCD p.7

Human resource development in Bhutan: large-scale and multisectoral

Bhutan's technical as well as managerial capacities in all sectors are being upgraded through this major project

Technical cooperation from UNDTCD is helping the Kingdom of Bhutan carry out what is probably the largest single human resources development project now underway in the developing world. Running from 1988-92, the project is being executed by the Development Administration Division (DAD) of UNDTCD with $9.8 million in funding from UNDP.

The project aims to build the country's technical and managerial capabilities across all sectors. As a land-locked and least developed country spreading over 74 thousand square kilometers with a population of only 1.2 million, Bhutan faces a major shortage of technical skills along with limited resources and inadequate infrastructure for development.

Two-track approach

The programme relies on a two-track approach to human resource development. One track seeks to develop a core of trained personnel in selected key sectors such as agriculture, industry, trade, education, tourism, roads and transport investment planning and analysis, public administration and natural resources development.

The second track seeks to improve the institutional capabilities of the government for human resources development and in particular those of the Royal Civil Service Commission as the central personnel agency.

Specifically, the Commission is being helped to formulate, manage and review human resources development master plan programmes in coordination with the line ministries and in relation to objectives of the 6th five year plan. It is also being helped to review existing training policies through fellowships in advanced institutions overseas and in-service training within the country, career development, performance assessment, and preparation of specific guidelines.

In addition, the government's Human Resource Development Division is being strengthened and on-the-job, hands-on training of personnel in human resource management is being conducted. The government is also being assisted to develop modalities for coordination of external assistance in human resources development. This includes preparation of proposals for consideration by multilateral and bilateral donors.

Achievements

Major achievements of the programme to date include the in-country training of hundreds of middle level officers in various managerial and technical skills. In addition, 400 officers have been trained in overseas institutions in different fields of economic management, public administration and finance in strategic sectors such as agriculture, industry, telecommunications, postal service, education, civil aeronautics, labour rela-

[*See on* **Bhutan** *page 2*]

On-the job-training of personnel is a key component of this programme

tions, town and country planning, housing and tourism. The human resource development master plan has been modified to link with the specifics of the 6th five year plan. Finally, civil service management has been upgraded, especially with reference to performance evaluation, career development, job evaluation, training policies and programmes and reorganization.

Inter-agency effort

The bulk of the substantive work, including management of fellowships, is being done by experts attached to the project in close association with Bhutanese government officials. Because of the multisectoral nature of the programme, however, nine specialized agencies of the United Nation (FAO, UNIDO, ITC, UPU, ITU, UNESCO, ICAO, ILO and IMF) are involved in the implementation of the fellowships component of the project work which is being administered by UNDTCD under interagency agreements.

1991-92 efforts under this programme are focused on substantive work in financial managment, workforce planning, decentralization of local government, civil service development and training and fellowships in a wide variety of technical areas.

The government plans to continue with its priority focus on human resource development during the 7th five year plan for 1992-97. ■

The Royal Civil Service Commission building in Thimphu, Bhutan.

New Advisers:

Gustavo Cuellar
El Salvador
Geothermal Energy

Julio Darcy
Nicaragua
Development Planning

Andrei Filotti
Romania
Water

Vivian Monteith
Canada
Public Financial Management

Michael Willingham
U.S.A.
Energy and Environment

Energy Conservation in India

The efficiency of energy use in India is quite low in several sectors. This not only results in higher energy costs, but it leads to additional energy production needs. India's budgetary allocations for needed capacity and production expansion in the coal, petroleum and electric power sectors now cover only about half the investment requirements. Unless it achieves increased efficiency of both supply and demand of energy, the country faces a serious energy crisis.

The government's concern about this situation and commitment to finding solutions has been reflected in a number of high-level official reports in recent years which have called for a strong national energy conservation programme. In this context, UNDTCD has been asked to help carry out such a programme under a three year UNDP-funded project begun in late 1989. Based in the cities of New Delhi, Calcutta, Ahmedabad and Madras, the project aims to help India attain 20-30 per cent energy savings in the manufacturing, transport, residential and commercial sectors.

To lay the groundwork for a national energy conservation programme, a first task of this project has been to analyze the institutional and legislative frameworks of conservation activities in other countries, both developed and developing. Drawing on this evaluation, the government is being assisted to formulate its own technical and policy standards for energy conservation.

In-depth audits

Many energy audits have been undertaken in India in recent years, but due to cost, equipment and time constraints, most have been one or two day walk-through audits with a relatively low technical level. While the "housekeeping" improvements they have recommended have yielded some energy savings, more detailed audits are essential to fully understand plant conditions, collect all feasible measurements and parameters through complete state-of-the-art energy audit equipment packages, and help the firm plan its energy conservation programme.

As one of the main activities of this project, 35 such in-depth audits are being carried out in small-to-medium firms in the manufacturing sector (chemical processes, pharmaceuticals, textiles, food processing and dairy, paper, small and medium scale engineering, glass and ceramics), five in the transport sector and five in the residential/commercial sector.

These audits take up to a month, entail the direct and continuous involvement of engineers and managers at the firm, and rely on a systems-style approach to monitor all operations from the raw material input to the output of the end product of each firm, fleet, facility or building audited. Guidelines for these audits have been drawn up in six project-prepared manuals for the manufacturing sector (chemicals, food processing, glass/ceramics, paper, small/medium engineering and textiles) and one each for the transport and residential/commercial sectors.

Each audit recommends measures for improving energy use. Since many of these measures require investment, a cost effectiveness study is also carried out as an essential component of the audit.

Energy vans

In addition, state-of-the-art electrical, hydraulic and chemical equipment sets as well as measuring instruments and portable computer systems have been assembled in four complete energy audit equipment packages.

Four custom-designed energy vans have been produced locally to transport the complete energy audit equipment set to each firm being audited. The vans have special shock absorbers and are air conditioned to protect this delicate equipment.

Engineers from the audited firms will be invited into the vans to familiarize themselves with the equipment. The vans will also serve as demonstration centres to convince other firms to undertake audits.

National capacities

The project is making use of national expertise as much as possible and strengthening local technical capacities through external study tours, internal seminars and workshops and on-the-job training. Under the umbrella of the Department of Power in the Ministry of Energy, the project is working through four technically competent regional lead agencies: the PHD Chambers of Commerce and Industry in the north, the Confederation of Engineering Industries in the south, the National Productivity Council in the east and the National Small Industries Corporation in the west. Each lead agency is assigned an energy van.

While some audits are undertaken by international staff, others are done by mixed international-national teams. These mixed teams facilitate the transfer of expertise relating to audit techniques and the evaluation of audit results and make it possible for more and more audits to be carried out entirely by national experts. ■

Customized vans to transport energy audit equipment have been produced locally.

READEX FICHE

Asia and the Pacific maps for development

New applications and technologies, resource management and monitoring environmental changes, information systems, required training and education... These were just some of the topics covered by the 186 participants at the Twelfth United Nations Regional Cartographic Conference for Asia and the Pacific, held in Bangkok, Thailand from 20-28 February 1991.

Since its inception, the United Nations has held periodic regional conferences to assist governments, particularly those of developing countries, in the use of modern technologies for cartographic data acquisition, compilation, storage and presentation. UNDTCD is charged with organizing the conferences for the Americas and for Asia and the Pacific.

Topographic and thematic maps

After technical presentations and discussions, a number of recommendations were made. Several had to do with topographic mapping, a vital underpinning for the exploration and exploitation of mineral and other natural resources as well as for planning. Given the importance to development of topographic base maps and of nautical and bathymetric charts, the Conference recommended that national survey and mapping authorities make use of the latest techniques and that funds be set aside to maintain highly specialized surveying and computer aided mapping equipment.

The Conference also recommended that UNDTCD develop a set of guidelines on the appropriate transfer of technology in the survey, charting and mapping fields.

Asian and Pacific countries were urged to introduce national survey laws, a model of which was drafted under a United Nations (HABITAT) supported project in the United Arab Emirates. In light of the importance of producing charts of the South China Sea, assistance was recommended for the undertaking of a hydrographic survey of this area and to develop the region's capabilities in this field.

Given the problems of many urban areas of this region and the need to upgrade urban planning tools, the Conference recommended that all member states produce updated large scale maps of urban areas, with United Nations assistance if required.

In response to the increasing concern of Asian and Pacific countries over the possible rise of the absolute mean sea level due to global warming, programmes to monitor sea level changes in the Asia and Pacific were recommended, to be coordinated by UNDTCD. It was stressed that such programmes should entail not only tide gauge measurements but precise geodetic measurement of the movement of the earth's tectonic plates. UNDTCD was called upon to support joint programmes involving oceanographic and geodetic measurement.

The Conference also requested that UNDTCD study and prepare a report on the role which national survey, charting and mapping organizations can play in enhancing resource management in order to ensure sustainable development.

Remote sensing

The Asia and Pacific region has long been using remote sensing for natural resource management and environmental monitoring and has a high investment in remote sensing centres and programmes. Nonetheless, many developing countries in the region, particularly the least developed, land-locked and small islands, still lack access to this technology. The Conference therefore recommended that increased efforts be made to share remote sensing technologies through training and information exchange mechanisms set up under the ESCAP/UNDP Regional Remote Sensing Programme.

In addition, with many developing countries unable to fund the evaluation and assessment of cost, reliability and utilization of commercially available remote sensing data, the Conference recommended that UNDTCD establish a focal point to compile, with assistance from space launching states and organizations, information on new data sets and the conditions and modalities under which this data can be obtained. This information would be disseminated to developing countries by UNDTCD.

Information

With maps increasingly used to display socio-economic, resource and environmental data for planning purposes, developing countries were encouraged to integrate socio-economic data bases into geographic information systems. The Conference recommended that standards for this integration be developed in cooperation with the cartographic, demographic and economic sections of the United Nations and that attention be directed to appropriate representations of socio-economic data for displays and thematic maps. At the same time, countries were urged to update their socio-economic data files within geographic information systems used as input for maps.

The Conference recommended continued efforts to provide training programmes in Geographic Information Systems (GIS), which provide information about every aspect of a given area, from the atmosphere to the earth's crust. Training in emerging mapping and surveying technologies was also called for. In addition, the Conference called on UNDTCD to offer a supporting programme for exchange of personnel at all levels of the surveying and mapping fields in order to facilitate the transfer of skills.

With regard to Land Information Systems (LIS), UNDTCD was requested to establish LIS coordinating committees within the countries of the region. In addition, the Conference encouraged called on countries to coordinate and rationalize land and geographic information systems in order to avoid proliferation and duplication.

Moving ahead

Given the impact of new and emerging cartographic technologies, the participants recommended that in the future, Cartographic Conferences should be looking forward rather than report on past accomplishments. They should also be held at three-year intervals, which was the practice during the first to ninth conferences, instead of four. The Thirteenth United Nations Regional Cartographic Conference for Asia and the Pacific is thus to be held in early 1994. It will be preceded by a technical meeting, possibly in New Zealand.

The provisional agenda for this conference will include the current state of and issues relating to surveying, charting and mapping at the national level, new trends in technology and their application, human resources development and regional cooperation and technology transfer. ■

Groundwater overexploitation

Groundwater overexploitation in developing countries is taking an increasingly high economic, social and environmental toll. In many areas where groundwater is being extracted to serve the needs of vast urban and industrial concentrations or of irrigated agriculture, the water levels are dropping steadily and dramatically.

For example, the water table in parts of southern Morocco has dropped 50 metres over the last two decades; in the Manila area it has dropped nearly 100 metres in the last 20 to 30 years. As a result of lowered water tables due to overexploitation, pumping costs have soared, springs, streams and wells have dried up and wetlands have disappeared.

Overexploitation also makes groundwater supplies more vulnerable to contamination. In Senegal, fluoride is seeping into the drinking water supply. In other developing countries, groundwater heavily tapped near lakes into which sewage flows is contaminated. Salinity is degrading water quality in coastal areas and is progressing inland.

The environmental costs of overexploitation are considerable. According to a recent report by the Japanese International Cooperation Agency (JICA), Thailand lost hundreds of millions of dollars from 1983-86 due to the sinking of the Bangkok metropolitan area resulting from groundwater overexploitation. The report predicts that unless conservation efforts are successful in this city which pumps about one million tons of water per day and is sinking up to 5 centimetres yearly in some areas, Bangkok will be below the mean sea level by the year 2000.

The extent and impact of groundwater overexploitation and how it can be prevented or remedied were issues explored at the UNDTCD-organized Interregional Workshop on Groundwater Overexploitation in Developing Countries convened by UNDTCD in cooperation with the government of Spain (local government of the Canary Islands) and held in Las Palmas de Gran Canaria from 20-24 April 1991.

The workshop was attended by 20 water resources professionals from 17 developing countries from the Americas, Africa, the Mediterranean and Asia and the Pacific. Senior experts from France, Spain, the United Kingdom and the United States also participated.

Participants stressed the need for more extensive research and data collection to determine the extent to which groundwater extraction is drawing upon groundwater reserves in storage. The need for a more accurate definition of overexploitation was also called for as a basis for an objective assessment of the situation. In general, it was recognized that there is a difference between mining of aquifers with the intention of generating socio-economic benefits over time and unplanned, uncontrolled extensive tapping of groundwater leading to undesired and in many cases harmful effects.

Water resources professionals called for more public awareness and participation to improve groundwater management and conservation.

Control strategies, remedies

Participants called on governments to step up efforts to control groundwater exploitation in certain areas. They noted, however, that in many cases the negative effects of overexploitation had not been anticipated due to lack of knowledge of groundwater conditions and monitoring. Such knowledge and monitoring are also needed to assess control measures.

In both urban and rural areas, water should be priced so as to cover water resources management costs. While legal provisions to conserve groundwater are highly desirable, they are not necessary if local commissions or committees have the power to enact regulations.

The workshop noted that public awareness and participation must increase if planned improvements in groundwater management, administration and policies are to have the expected results.

Participants called for increased efforts to artificially recharge aquifers under extensive exploitation with the use of simple technologies. Finally, the workshop stressed the need for conservation measures aimed at achieving sustainable and environmentally sound development, especially in relation to the protection of wetlands.

UNDTCD is now preparing a technical report on this workshop. ■

Aid accountability: benefits for both sides

The need of donor countries to know that the grants or loans they provide to developing countries are well used is widely recognized. On the other side of the coin, developing countries complain that the paperwork and time involved in complying with the array of accountability requirements of different donors is a burden which stretches their already thin staff resources to the breaking point.

To meet the needs of both donors and recipients, a recent international donor group meeting on aid accountability called on UNDTCD to undertake an analysis and systematization of various donors' accountability needs as a first step towards formulating international accountability standards acceptable to both sides. The Paris meeting, held from 23-24 April 1991, followed up on recommendations made at the September 1990 expert group meeting in Vienna on accounting and auditing of foreign aid programmes.

The April meeting brought together participants from bilateral and multilateral funding organizations as well as representatives for the Devleopment Assistance Committee of the Organization for Economic Cooperation and Development (DAC/OECD) and from the International Organization of Supreme Audit Institutions (INTOSAI).

The meeting formed a new Working Group on Harmonization of Accountability Requirements with representation from donor and host countries as well as relevant international accounting and auditing associations. This group will review and approve proposals for the new accountability standards to be developed by UNDTCD, which is the executing agency for the project.

Given the diversity of the aims, means, standards and procedures in different countries, the task of formulating new standards acceptable to all is generally considered an ambitious one. To accomplish it effectively, UNDTCD will be relying heavily on the collaboration and flexibility of the donor and recipient communities alike.

During the next few years, harmonization of donors' requirements as well as capacities of recipient countries will be reviewed in depth in order to formulate and negotiate acceptable accountability standards. Initial funding for this work has been obtained from the Canadian Government, and the remaining required support is expected from other donors. ■

Major UNDTCD-executed projects approved to date in 1991

(with budgets exceeding $1 million)

Chad: Strengthening of the Direction de Recherches Geologiques et Minieres

Following up on institution-building assistance provided to this bureau since 1987, the focus of this three-year project is on preparing the bureau for national execution of projects and on upgrading mineral exploration and investment promotion capabilities.

($3.6 million, funded by UNDP)

China: Training and Research in Population in Chinese Universities

A decade of UNDTCD technical cooperation in the field of demography made China self-sufficient in skilled demographers and built up a network of 22 demographic institutes. This five-year project will use these skilled national professionals and the network of institutes to carry out ten high priority research projects.

($3 million, funded by UNFPA)

Ethiopia: Mineral Exploration and Training

Ethiopian earth scientists will be trained in specialized fields related to mineral exploration. The four year project will also assess the mineral potential of a 3000 km area in Adola, Sidamo through integrated mineral exploration methods, including a high resolution helicopter-borne combined electromagnetic, magnetic and radiometric survey.

($2.6 million, funded by UNDP)

Niger: National Household Survey Programme

This five year project is conducted within the framework of the United Naitons National Household Survey Capability Programme and constitutes the statistical component of the National Programme of Structural Adjustment.

($2.4 million, funded by UNDP)

Pakistan: Duddar Zinc-Lead Prefeasibility Study

The project will investigate a high grade zinc-lead sulphide deposit in Balochistan, identified by an earlier UNDP/UNDTCD-assisted project. This new 42-month project with the Pakistan Mineral Development Corp. will include a geophysical survey, 18,000 metres of diamond drilling, establishment of an X-ray fluorescence/atomic absorption assay laboratory, training, computer applications and technical and financial studies aimed at eventual development of a mine, which would be the first of its kind in Pakistan.

($3.6 million, funded by UNDP)

Papua New Guinea: Personnel Management Improvement

This 2 year project will assist in the decentralization of civil service staff functions to line departmental and regional entities in order to enhance the overall productivity of the civil service.

($1 million, funded by UNDP)

Sudan: Planning Support for Darfur Development and Drought Relief

This two year project will upgrade regional planning capabilities through training and improve coordination between various government agencies and project monitoring. New projects for public sector financing and private sector participation will be identified and special attention will be paid to environmental concerns, rural development and the role of women in development.

($1.7 million, funded by UNDP)

Sudan: Kordofan Regional Government Drought Management and Planning

This one year project will strengthen the capacities of the Kordofan regional government to prepare for, manage and monitor the drought situation.

($1 million, funded by UNDP) ■

Albania and UNDTCD: Forging a new partnership

As Albania embarks on the historic task of reaching outside its borders for the first time in many years for new economic and technological options, UNDTCD has been helping the country assess and acquire the specialized expertise it requires to meet its unique needs. The Department has thus become a facilitator in this complex process of transition and a partner in Albania's move into the future.

This new partnership began in 1988, a year before the scheduled 1989 population and housing census. In order to improve the census exercise and carry out several demographic surveys, all of which would feed into and enhance national economic and social planning, the Albanian Government requested UNDTCD assistance in the computerization of its Statistical Office. At that time, the Statistical Office had just one microcomputer and one terminal linked with the National Computer and Mathematics Institute.

With UNFPA funding, a three year project was launched in 1989 with technical expertise from the United Nations Statistical Office. The project provided training, over 80 microcomputers, software and guidance in the process of computerization, including the establishment of a Local Area Network which facilitated access to the statistical database. The project helped Albania gather comprehensive data on its 3.2 million inhabitants and begin demographic analysis. The project also made it possible to include tables from the 1989 census in Albania's 1990 Statistical Yearbook as well as in the 1990 Demographic Yearbook of the United Nations.

A typical morning scene in Berat, the ancient "city of windows" in central Albania.

Following up on this successful collaborative effort, two additional projects were begun in 1991. The first is aimed at upgrading the Population Studies Unit in the Economics Faculty of the Tirana University, while the second deals directly with strengthening national capacities to evaluate and analyze the 1989 population census.

Albania is rich in natural resources, ranking among the top 3-5 chromite producing countries in the world.

Advisory services

In 1990 and 1991, UNDTCD advisory services, funded by the United Nations Regular Programme of Technical Cooperation, were made available to consolidate work in this field and to provide expertise and to assess needs in others.

A second and broader phase of work began with a high-level mission in mid-April 1990 by the Deputy Director of the Programme, Policy and Development Planning Division (PPDPD) of UNDTCD. This led to Government requests for a number of technical missions by UNDTCD specialized advisors in the mineral, energy and cartographic sectors.

In mineral resources, direct assistance was provided in the field of legislation. In addition, project proposals were formulated in natural resources and industry policy and legislation and in petroleum legislation.

As a result of other missions, project proposals were drafted and are under consideration for strengthening the photogrammetry capacities of the national mapping organization, training in modern power management and for upgrading the Mining Institute and the Geophysical Institute laboratories.

In March 1991 a second mission to Albania was undertaken by the Deputy Director of PPDPD, who during this visit also assisted the President of the General Assembly, Mr. Guido de Marco in his meetings with Albanian leaders. During this mission, the government acknowledged the good cooperation established with UNDTCD and other United Nations entities and expressed interest in further assistance in the development administration and management and economic fields. ■

New publications

Energy and the Environment : impact and controls

All energy production, conversion and use has a disruptive effect on the enviroment and in some cases human health. This publication provides a guide to these energy processes and their effects. It contains chapters on the environmental impacts of fossil fuel production, nuclear energy and renewable sources of energy, and the way they physically effect our world and its inhabitants. Additional chapters address pollution control technologies and environmental impact assessment.

Energy Conservation and Substitution in the Transport Sector of Developing Countries

Some transport energy conservation programmes with an impact on energy use have been implemented and lessons can be learned from them. This book presents seven case studies, all covering urban passenger transportation, including mass transport systems (light rail, metro, bus), traffic limitation, appropriate city planning, driver training and vehicle maintenance. Also described are technical aspects of the utilization of alternative transportation fuels such as methanol, ethanol, compressed or liquified natural gas and liquified petroleum gas.

Application of Government Auditing Standards in Developing Countries

This publication describes basic procedural techniques and acquaints audit officials with techniques and procedures related to correct application of selected audit standards, such as audit planning, review of internal control systems, collection of evidence and reporting on audit. It also includes illustrations of reporting forms and formats.

River and Lake Basin Development (Natural Resources Water Series No.20)

This book contains the report of and technical background papers for the United Nations Interregional Meeting on River and Lake Basin Development with Emphasis on the Africa Region, held in Addis Ababa, Ethiopia, from 10-15 October 1988. The focus is on connections among economic, environmental, technical and institutional factors required for the sustainable development of river and lake basins. Experiences are analyzed from all regions, but with regard to Africa, stress is placed on the economic, social and environmental costs of large waterworks which threaten the livelihood of local populations and whose economic benefits are felt largely in urban rather than in rural areas.

Groundwater in Eastern and Northern Europe (Natural Resources Water Series No.24)

In addition to a description of groundwater occurrences and availability in European countries, this book provides information on the conditions of groundwater development and related problems, information on technologies and methods used in the investigation, assessment and development of groundwater, and on international cooperation among the countries in this region.

Update:
Interregional workshops/seminars

Held second quarter of 1991:

20 April–19 July, USSR
Twenty-third Session of the UN/USSR Interregional Training Programme in Population and Development

23-24 April, France
Working Group of Donors on Harmonization of Accountability Requirements

13-16 May, Brazil
Interregional Seminar on Metropolitan Management (Expert Working Group)

15-17 May, Bogota
Steering Committee for the 4th Regional Cartographic Conference for the Americas

20-31 May, Berlin
Seminar on Digital Image Processing of Multi-spectral Data

3 June - 5 July, Canada
International Training Workshop on the Use of Microcomputers for Demographic Analysis of Population Census Data

Upcoming:

27–29 August, Malaysia
Expert Group Meeting - Promoting Accelerated Development in Africa - Perspective from the Asian Experience

2-8 September, The Gambia
Workshop to test training modules on women, water supply and sanitation

4-11 September, New York
Tenth Meeting of Experts on the United Nations Programme in Public Administration and Finance

16-20 September, Geneva
15th Session of the U.N. Group of Experts on Geographical Names

17-21 September, Congo
Regional Seminar on Population Policy

30 September - 4 October, Canada
Interregional Seminar on Mineral Investment: The Impact of Tax Regime ("Mineral Taxation")

To our readers:

Your contributions, letters and views are welcome. Write to:

dtcd news
United Nations, DC1–1254,
New York, New York 10017, USA